

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of treating a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS a compound selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, wherein the subject exhibits an amount effective to treat said at least one symptom of PCOS of a peptide compound at least one symptom of PCOS, capable of binding to or activating a GLP-1 receptor *in vivo*. ~~with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.~~

2. (Original) The method according to claim 1, wherein the symptom is selected from the group consisting of insulin resistance, hyperinsulinemia, type-2 diabetes, obesity, hypertension, hyperlipidemia, anovulation or irregular ovulation, infertility, hyperandrogenism, hirsutism, alopecia, acne, enlarged multifollicular ovaries, abnormal uterine bleeding, and spontaneous abortion.

3. (Original) The method according to claim 1, wherein the subject is a human.

4. (Currently Amended) The method according to claim 1, wherein [[GLP-1]] said peptide compound comprises ~~is selected from the group consisting of GLP-1 (7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4~~ a GLP-1 peptide or an exendin peptide.

5. (Currently Amended) The method according to claim 1, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

6. (Currently Amended) The method according to claim 1 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 7.-11. (Cancelled)

12. (Currently Amended) A method of reducing insulin resistance in a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS a compound selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, wherein the subject exhibits an amount effective to treat said at least one symptom of PCOS of a peptide compound capable of binding to or activating a GLP-1 receptor *in vivo*, to thereby reduce insulin resistance in said subject ~~compound selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.~~

13. (Original) The method according to claim 12, wherein the subject is a human.

14. (Currently Amended) The method according to claim 12, wherein [[GLP-1]] said peptide compound is comprises a GLP-1 peptide or exendin peptide selected from the group consisting of GLP-1(7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4.

15. (Currently Amended) The method according to claim 12, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

16. (Currently Amended) The method according to claim 12 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 17.-21. (Cancelled)

22. (Currently Amended) A method of preventing the onset of type-2 diabetes in a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS an amount effective to treat said at least one symptom of PCOS of a peptide compound capable of binding to or activating a GLP-1 receptor *in vivo*, to thereby prevent the onset of type-2 diabetes in said subject. ~~selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.~~

23. (Original) The method according to claim 22, wherein the subject is a human.

24. (Currently Amended) The method according to claim 22, wherein ~~[[GLP-1]]~~ said peptide compound is comprises a GLP-1 peptide or an exendin peptide. selected from the group consisting of GLP-1(7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4.

25. (Currently Amended) The method according to claim 22, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

26. (Currently Amended) The method according to claim 22 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 27.-31. (Cancelled)

32. (Currently Amended) A method of restoring regular menses in a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS an amount effective to treat said at least one symptom of PCOS of a peptide compound capable of binding to or activating a GLP-1 receptor *in vivo*, to thereby restore regular menses in said subject. selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.

33. (Original) The method according to claim 32, wherein the subject is a human.

34. (Currently Amended) The method according to claim ~~[[1]]~~ 32, wherein ~~[[GLP-1]]~~ said peptide compound is comprises a GLP-1 peptide or an exendin peptide. selected from the group consisting of GLP-1(7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4.

35. (Currently Amended) The method according to claim 32, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

36. (Currently Amended) The method according to claim 32 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 37.-41. (Cancelled)

42. (Currently Amended) A method of restoring regular ovulation in a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS an amount effective to treat said at least one symptom of PCOS of a peptide compound capable of binding to or activating a GLP-1 receptor *in vivo*, to thereby restore regular ovulation in said subject. ~~selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.~~

43. (Original) The method according to claim 42, wherein the subject is a human.

44. (Currently Amended) The method according to claim 42, wherein [[GLP-1]] said peptide compound is comprises a GLP-1 peptide or an exendin peptide. ~~selected from the group consisting of GLP-1 (7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4.~~

45. (Currently Amended) The method according to claim 42, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

46. (Currently Amended) The method according to claim 42 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 47.-51. (Cancelled)

52. (Currently Amended) A method of restoring fertility in a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS an amount effective to treat said at least one symptom of PCOS of a peptide [[a]] compound capable of binding to or activating a GLP-1 receptor *in vivo*, to thereby restore fertility in said subject. ~~selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.~~

53. (Original) The method according to claim 52, wherein the subject is a human.

54. (Currently Amended) The method according to claim 52, wherein [[GLP-1]] said peptide compound is comprises a GLP-1 peptide or an exendin peptide. selected from the group consisting of GLP-1 (7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4.

55. (Currently Amended) The method according to claim 52, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

56. (Currently Amended) The method according to claim 52 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 57.-61. (Cancelled)

62. (Currently Amended) A method for preventing spontaneous abortion in a subject suffering from PCOS, said method comprising the step of administering to a subject exhibiting at least one symptom of PCOS an amount effective to treat said at least one symptom of PCOS of a peptide compound capable of binding to or activating a GLP-1 receptor *in vivo*, to thereby prevent spontaneous abortion in said subject. selected from the group consisting of GLP-1, exendin, and agonists and analogs thereof, with the proviso that the analogs of exendin do not include the peptides of SEQ ID NOs: 7-13.

63. (Original) The method according to claim 62, wherein the subject is a human.

64. (Currently Amended) The method according to claim 62, wherein [[GLP-1]] said peptide compound is comprises a GLP-1 peptide or an exendin peptide. selected from the group consisting of GLP-1 (7-36)NH₂, GLP-4(7-37), GLP-1(9-36) and exendin-4.

65. (Currently Amended) The method according to claim 62, wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered by an infusion pump or by subcutaneous injection of a slow release formulation.

66. (Currently Amended) The method according to claim 62 wherein the ~~GLP-1, exendin, or agonists or analogs thereof~~ peptide compound is administered with an agent selected from the group consisting of an ovulation inducing drug, an anti-androgenic drug, an insulin-sensitizing agent and glucose.

Claims 67.-71. (Cancelled)

72. (New) The method of claim 1, wherein said peptide compound comprises a GLP-1 peptide.

73. (New) The method of claim 1, wherein said peptide compound comprises exendin-3 or exendin-4.

74. (New) The method of claim 73, wherein said peptide compound comprises exendin-4 acid.

75. (New) The method of claim 73, wherein said peptide compound comprises exendin-4 amide.

76. (New) The method of claim 1, wherein said peptide compound comprises an exendin analog.

77. (New) The method of claim 76, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.

78. (New) The method of claim 12, wherein said peptide compound comprises a GLP-1 peptide.

79. (New) The method of claim 12, wherein said peptide compound comprises exendin-3 or exendin-4.

80. (New) The method of claim 79, wherein said peptide compound comprises exendin-4 acid.

81. (New) The method of claim 79, wherein said peptide compound comprises exendin-4 amide.

82. (New) The method of claim 12, wherein said peptide compound comprises an exendin analog.

83. (New) The method of claim 82, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.

84. (New) The method of claim 22, wherein said peptide compound comprises a GLP-1 peptide.

85. (New) The method of claim 22, wherein said peptide compound comprises exendin-3 or exendin-4.

86. (New) The method of claim 85, wherein said peptide compound comprises exendin-4 acid.

87. (New) The method of claim 85, wherein said peptide compound comprises exendin-4 amide.

88. (New) The method of claim 22, wherein said peptide compound comprises an exendin analog.

89. (New) The method of claim 88, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.

90. (New) The method of claim 32, wherein said peptide compound comprises a GLP-1 peptide.

91. (New) The method of claim 32, wherein said peptide compound comprises exendin-3 or exendin-4.

92. (New) The method of claim 91, wherein said peptide compound comprises exendin-4 acid.

93. (New) The method of claim 91, wherein said peptide compound comprises exendin-4 amide.

94. (New) The method of claim 32, wherein said peptide compound comprises an exendin analog.

95. (New) The method of claim 94, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.

96. (New) The method of claim 42, wherein said peptide compound comprises a GLP-1 peptide.

97. (New) The method of claim 42, wherein said peptide compound comprises exendin-3 or exendin-4.

98. (New) The method of claim 97, wherein said peptide compound comprises exendin-4 acid.

99. (New) The method of claim 97, wherein said peptide compound comprises exendin-4 amide.

100. (New) The method of claim 42, wherein said peptide compound comprises an exendin analog.

101. (New) The method of claim 100, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.

102. (New) The method of claim 52, wherein said peptide compound comprises a GLP-1 peptide.

103. (New) The method of claim 52, wherein said peptide compound comprises exendin-3 or exendin-4.

104. (New) The method of claim 103, wherein said peptide compound comprises exendin-4 acid.

105. (New) The method of claim 103, wherein said peptide compound comprises exendin-4 amide.

106. (New) The method of claim 52, wherein said peptide compound comprises an exendin analog.

107. (New) The method of claim 106, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.

108. (New) The method of claim 62, wherein said peptide compound comprises a GLP-1 peptide.

109. (New) The method of claim 62, wherein said peptide compound comprises exendin-3 or exendin-4.

110. (New) The method of claim 109, wherein said peptide compound comprises exendin-4 acid.

111. (New) The method of claim 109, wherein said peptide compound comprises exendin-4 amide.

112. (New) The method of claim 62, wherein said peptide compound comprises an exendin analog.

113. (New) The method of claim 112, wherein said peptide compound comprises an exendin analog having a sequence selected from the group consisting of SEQ ID NOS: 20, 21, 22, 23, 24, 25, 26, 27, and any combination thereof.